

SOLE INVENTOR

**APPLICATION FOR
UNITED STATES LETTERS PATENT**

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

Be it known that I, MICHAEL G. HAJACK, a citizen of the United States of America and residing in the Village of Hinsdale, Illinois 60521, have invented a new and useful GUARD FOR PROTECTING WALL MOUNTED SWITCHES, ALARMS AND THE LIKE, of which the following is a Specification.

GUARD FOR PROTECTING WALL MOUNTED SWITCHES, ALARMS AND THE LIKE

BACKGROUND OF THE INVENTION:

(1) FIELD OF THE INVENTION:

[0001] This disclosure pertains to a wall mounted switch guard or bumper that is located adjacent and usually below the switch or fixture it is intended to protect. The guard does not require the protected device to be disassembled for attachment and does not interfere with operation of the fixture.

(2) DESCRIPTION OF THE PRIOR ART:

[0002] Various arrangements have been used in the past to prevent inadvertent operation of wall switches and to protect them from damage. The Fleischman, U.S. Patent 4,506,120 (1985) and the Poirier U.S. Patent 4,363,944 (1982) show typical switch protectors that are in form of curved metal bars that are attached using the same connecting screws that attach the switch cover plate. Two other patents, one to Lore, U.S. Patent 4,102,471 (1978) and one to Spacek, U.S. Patent 3,527, 914 (1970) show similar switch protectors that are mounted on the switch to prevent inadvertent operation or damage. While the devices shown in these patents do prevent damage to the switch and prevent its unintended operation, each device requires the switch to be dismantled for attachment of the protector.

[0003] Another type of protective arrangement to prevent accidental operation of a switch is shown in two patents to Buturuga, 2,824, 915 (1958) and U.S. Patent 3,170,050 (1965). The first Buturuga patent (1958) shows a contoured switch plate having raised sections that protect

the switch from unintentional operation. The second patent also shows a device like the first patent to protect the switch but additionally has latches 13,14 (FIG.1) and 45 (FIG.6a) that provide stops that must be manually moved before the switch can be operated. The Buturuga patents are similar to the patents discussed above in that the switch must be dismantled and the substitute switch plate attached. These patents do not suggest the structure shown in the instant disclosure.

[0004] Other attempts at providing protective bumpers have been made to prevent door hardware from being damaged from carts, equipment and the like pass through the doorways. The Rittner, U.S. Patent 4,095,372 (1978) discloses a protector bar that is to be attached to the door adjacent the door handle, lock or the like. Another such device is shown in the Gurzenda, U.S. Patent 5,867,941 (1999) that shows a similar device to protect panic bars on doors. Neither of these patents discloses or suggests providing a protective device mounted on a wall away from the device to be protected in order to protect devices such as switches, thermostats, intercom stations, alarm pull boxes and the like.

[0005] Yet another of common type of wall mounted device protectors are the structures shown in U.S. patents 4,267,549 (1981) and 5,955,939 (1999) both to Taylor. The patents disclose clear covers that protect wall mounted devices yet, unlike the disclosure shown herein, must be moved, i.e. by pivoting about hinges or by sliding in a bracket attached to the wall, before the protected device can be reached to operate.

[0006] The guard shown in the present disclosure, on the contrary, departs from the direction suggested by these patents that show attaching the protective device to the switch, or over the device to be protected. The wall guard shown herein goes in a totally different direction to solve

the same type problem by placing a different type device at a different location. The guard of this invention does not require either attachment to the protected device or covering of the device to achieve the same result. Similarly, the door mounted protective bars deal only with movable doors and door hardware and do not suggest any application, modification or adaptation to fixed walls to protect wall mounted fixtures. The guard shown herein is fully compliant with the American with Disabilities Act (ADA) that suggests that wall mounted devices such as the guard disclosed with this invention do not extend any more than four inches from the supporting wall. By not extending more than four inches from any wall there is little danger that the protective guard will form an obstruction for visually impaired persons.

SUMMARY OF THE INVENTION

[0007] The instant disclosure pertains to protective devices or so-called wall guards that are used to protect wall switches, alarm pull boxes, thermostats, intercom stations, push button controls and the like that protrude from a wall. More specifically, the bumper shown herein is made of a formed piece of metal, plastic, or even rubber, wood or the like and is easily attached to the wall and functions without dismantling the protected switch. The wall guard is located away from the switch and allows easy access to the protected switch, i.e. protected device, for operating, inspecting, maintaining and the like. A modified version is manufactured of a softer, shock absorbing material that may be in the form of a coating on the rigid version or a complete formed piece of resilient, soft material such as low density polyethylene that is easy to clean.

[0008] In operation, the switch guard or bumper is a piece of metal or plastic that is formed into a shape to allow part of the bumper to extend away from the surface on which it is attached at least a minimum distance corresponding to the depth of the device to be protected whether it

be an alarm, switch, thermostat and the like. The guard is usually mounted below the device to be protected; however, it may be located above in certain applications. Similarly, the guard may be split in half and located on each side of the protected device. The usual fasteners may be used to securely attach the device. The formed part of the bumper may have a curve or bar like ramp structure that provides a ramp or cam like portion that must extend a distance from the wall sufficient to protect the associated device. Thus, the outer surface of the bumper will provide a strike plate to deflect objects and thereby prevent damage to the adjacent device whether it be a switch, alarm pull station, intercom or the like. In mounting the guard away from and not integral with the switch, locating and operating the switch are not impaired or prevented. Also, the wall guard may be installed by maintenance personnel and does not require an electrician for its installation.

[0009] It is thus a purpose or object of the present invention to provide an improved wall protector device in the form of a bumper that is easily attached adjacent to the associated switch or other wall mounted device and does not require the switch to be dismantled or reconfigured.

[0010] Another object of the invention is to provide a switch protector in the form of a flat piece of material that is curved to form a spring like device that is held in place with conventional fasteners.

[0011] It is another object of the invention to provide a contoured bar that is attached to a wall adjacent a switch in such a fashion to protect the switch from damage.

[0012] It is yet another object of this invention to provide a switch bumper that has a reflective surface to aid in location of the switch under poor light or emergency situations.

[0013] It is yet another object of this invention to provide a wall mounted guard for switches

and the like that can be provided in two parts.

[0014] These and other objects of the invention will become apparent to those having ordinary skill in the art with reference to the following description, drawings and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG.1 is a perspective view of the flat plate type of bumper;

[0016] FIG.2 is a section view taken along lines 2-2 of FIG.1;

[0017] FIG.3 is a section view taken along lines 3-3 of FIG.2;

[0018] FIG.4 is a section view taken along lines 4-4 of FIG.1;

[0019] FIG.5 is a modified form of the invention;

[0020] FIG.6 is another modified form of the invention;

[0021] FIG. 7 is a cross section view taken along lines 7-7 of FIG. 6;

[0022] FIG. 8 is another modified form of the invention;

[0023] FIG. 9 is a cross section view taken along lines 9-9 of FIG. 8.;

[0024] FIG. 10 is yet another version of the invention showing a two piece unit; and,

[0025] FIG. 11 is another modified, two piece form of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0026] Referring now to the drawings and in particular FIG.1 there is shown a guard or bumper 10 attached adjacent a switch 12 with both attached to a common wall 14. The switch 12 in this illustration is a fire alarm pull box as it is called. Although the term switch or fixture is used throughout it is to be understood that the protective device of this invention will protect any wall mounted device that protrudes from a wall and is subject to inadvertent actuation or damage by passing objects or persons. The guard 10 provides a generally curved body 16 and a pair of

attaching tabs 18 having a pair of openings 20. Fasteners 22 are positioned in the usual fashion in openings 20 and attached to the wall 14. Access holes 24 may be provided to allow a screwdriver or other tightening tool to have easy access to the fasteners 22 for tightening and removal.

[0027] As shown in FIG.2, the curvature of the bumper 10 must provide a space “d” that is at least the depth, or greater, of the fixture to be protected 12. With such a dimension, any object that contacts the bumper 10 will be guided away from the wall 14 and along the curved body 16. Such guiding action provided by the bumper 10 prevents the fixture from being actuated, as in the case of a wall switch, or from being damaged as in the case of a wall mounted thermostat.

[0028] A trim piece or rim 28 may be attached to the upper and lower edges to provide a decorative effect and a smooth edge. The rims may also be turned over as designated by the numeral 30 in FIG.4 to provide a round surface that not only provides a smooth edge but also stiffens bumper 10 and increases its spring effect.

[0029] The surface of the guard 10 may include a reflective surface provided by a tape 32 or by a reflector member 34, FIGS. 4-5, to increase visibility and allow an associated switch 12 to be more easily located. For example, it is suggested that when a number of guards 10 are installed that each be located in the same area below the protected switch device 12. It is recommended that the guard 10 be centered with the center of the switch 12 and that the top rim be within one foot from the bottom of the switch 12. By attaching each guard 10 in a designated and known location it will be easy to find the switch 12 in the dark, through smoke, or when otherwise not clearly visible. Also, as shown in FIG. 5, words 36 such as alarm, lights, fan, intercom or identifying symbols could be attached to the guard 10. The purpose of using the

guard 10 with such words or symbols is that it has a larger area than the device it protects. It would be impractical and self defeating to place words or symbols on a small device since the required small letters or indicia would be difficult to read and thus meaningless.

[0030] It is contemplated that guard 10 will be approximately eight inches wide and five inches high. The material is suggested as 14 gauge stainless steel that provides the desired flexibility and strength. Such dimensions allow the guard 10 to be adapted to protect a variety of wall mounted fixtures that may extend varying amounts from the supporting wall 14. Also, such a product provides the necessary spring effect that stiffens the sheet and adequately resists bumps and impact when it is fastened in place. It is also contemplated that a plastic material may be utilized that may be clear and attached in the same or similar fashion as the steel sheet without disrupting the aesthetics of the wall area. However, sheet type construction is suggested but not required for practicing the invention since it may be convenient or economical to manufacture the wall protector as an assembly of pieces, as a molded part or extruded piece and not in sheet form.

[0031] One outstanding feature of the guard 10 is that its installation and use does depend in any fashion upon the device to be protected. In other words, unlike the prior art, the guard 10 is not attached by dismantling and/or using any of the fasteners or attaching screws of the device it protects. The manner of installation simply involves installing suitable fasteners in the particular wall at a distance apart that will allow the attaching tabs 16 to be spaced apart a sufficient distance to allow the curved body 16 to be spaced from wall 14 a sufficient distance to deflect objects far enough from the wall to prevent contact with the switch 10 or other device to be protected.

[0032] Other versions of the present invention are shown in FIGS. 6-9 that disclose bar type

members that are manufactured as solid pieces as opposed to the flexible, sheet type member discussed above. The bar 38 shown in FIG. 6 is held in place by fasteners 22 and provides cam or ramp type sections 39 that guide objects outwardly from the wall 14, across the connector 40 and thus prevent contact with the protected device. The cross section shown in FIG. 7 shows a hollow bar; however, a solid bar or any other suitable contour could be utilized to provide the required strength to guide objects away from the wall and protected fixture 12.

[0033] The guard device 42 depicted in FIG. 9 is similar to the device of FIG. 6 with only a change in geometric features wherein the bar is curved rather than a composite of straight pieces that makes up the guard of FIG. 6. The usual fasteners 22 attach the guard 10 to the wall 14. Once again the modified version 42 is located below and extends the width of the switch 12. Like the versions disclosed in FIGS 1-9 the preferred location is below switch 12 and extends beyond the furthest point the switch 12 extends from wall 14.

[0034] FIGS. 10-11 show yet another modified form of the invention wherein the single unit disclosed and described above is split in two with each half 43 located alongside the protected device. FIG. 10 shows the protected device 12 mounted to a wall 14. Along each side of the device 12 are mounted protector sections 43. Each section 43 has a mounting section 44 for attaching to wall 14. A leg section 46 extends from the wall 14 a distance corresponding to the distance the wall mounted device 12 extends from wall 14. Extending between and connecting sections 44, 46 is a curved or deflector portion 48.

[0035] Similarly, the bar type guard 50 shown in FIG. 11 is a two piece version of the devices shown in FIGS. 6-9. Wall bracket sections 52 attach the units to wall 14 and are connected to a leg section 54 that extends away from the wall 14. The contacting portion of the guard 50 is

provided by a two piece ramp or cam section 55-56. Section 55 is parallel with wall 14 and is connected to sloped portion 56.

[0036] Thus it can be observed that the modified versions shown in FIGS 10-11 provide a structure that can be used where space or other considerations do not advise that the guard be mounted in line with the wall mounted switch, alarm pull box or the like. In such instances the invention can be used as a two piece assembly with one portion mounted on each side of the switch. One feature of the invention when used in two pieces is that there is only one piece that needs to be manufactured since it is capable of being reversed or inverted to be mounted on the left or right of the device.

[0037] The foregoing description and drawings merely explain and illustrate the invention and the invention is not limited thereto, except insofar as the appended claims are so limited, as those who are skilled in the art and have the disclosure before them will be able to make modifications and variations therein without departing from the scope of the invention.